



by Monty Mendenhall

A Frequently asked Question is Answered Conclusively

Will a Lightning Link Work In a Colt AR15/9mm?

Until recently, no one has actually said that they have successfully modified a Colt 9mm bolt for use with a Lightning Link (LL). Greg Jensenowski has changed all that. He not only modified a Colt AR15/9mm bolt for use with the LL, but he generously loaned it to Small Arms Review for testing. It can now be confirmed that, "Yes, with a properly modified AR15/9mm bolt, a LL works just as well in 9mm as it does in 5.56mm."

History and Details

The Lightning Link was invented by firearms design genius Max Auchincloss. The LL is more correctly called an Auto Disconnecter due to its method of operation. Made of flat sheet metal and weighing only 19 ounces, inserting a LL into an early model semi auto AR15 produces full auto fire. No full auto M16 parts are required and in fact, a LL will not function when using a full auto M16 bolt. Therein lies the problem with using a LL in a semi auto Colt AR15/9mm rifle. Semi auto Colt AR15/9mm rifles are shipped from the factory with full auto bolts installed.

LLs function with early model Colt semi auto bolts to produce full auto fire. Unlike a full auto conversion that uses a Drop In Auto Sear (DIAS), no additional full auto parts are required.

It must be noted that recently produced

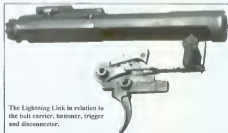
This question appears about once per month on the Bowers Board Internet website (<http://subguns.biggerhammer.net/mgunsg.cgi>). The general consensus of opinion there is, "No, It won't." Someone usually adds though, "... if the Colt 9mm bolt were modified a bit, then it would work."

Colt semi auto AR15 5.56mm bolts have been modified so that a LL will not function with them. AR15s that were shipped with the new semi auto bolt also have blocks pinned into their receivers that prevent the insertion of a Drop In Auto Sear too.

When used with an early model Colt AR15/5.56mm bolt, a Lightning Link pro-

duces full auto fire only. Semi auto fire is not an option unless one of John Namell's LL semi auto selector conversion kits is also installed.

AR15 rifles and M16 machine guns produce semi auto fire using the same method. An M16's semi auto fire function is independent of its full auto fire method. The M16



The Lightning Link in relation to the bolt carrier, hammer, trigger and disconnecter.

full auto method of fire bypasses the semi auto disconnector entirely. If an M16's semi auto disconnector "hook" is removed from its hammer, it will still fire reliably when full auto is selected. If semi is selected though, after removing the semi auto "hook," only one round will be fired and then the M16 will stop with a live round in the chamber. The unfired round will have a light primer "dent." ATF might hold this to be a machine gun conversion as well, with a soft primer, the firearm might fire the second round.

For a more detailed explanation of how Lightning Links and Drop In Auto Sears differ and function, please read "Small Wonders" in Small Arms Review, Volume 2, Number 8. Back issues are available from Moose Lake Publishing LLC.

Bolt Differences and Modifications

Look at Picture A. It is a view of an AR15 5.56mm's bolt carrier. Note how the Lightning Link's short "paddle" arm engages the "face" of the aft/lower portion of the AR15's semi auto bolt carrier. Next look at Picture B. It is a view of the bolt that is supplied with both the semi auto AR15/9mm rifle and with the full auto M16/9mm submachine gun. A Drop In Auto Sear is also in the picture. Note that the full auto bolt engages the Drop In Auto Sear (and the more common M16 pinned-in sear) at a different, more forward, point. To make a full auto bolt function properly with a LL, the full auto bolt must be modified to duplicate the configuration of an early model AR15 semi auto bolt.

Finally, look at Picture C of Antonowicz's full auto Colt 9mm bolt. It has been modified to duplicate the semi auto bolt's configuration. Note that the LL engages the modified bolt "face" at the same point as it does on the semi auto 5.56mm bolt.

Careful Y'all

Modifying a full auto bolt for use with a LL is not difficult. Only a skilled machin-

ist should attempt though. The bolt is very hard and at least one cutting tool will likely be destroyed during the conversion process. Moreover, care must be taken to avoid overheating the bolt and weakening it.

Refer to the drawing of the early model Colt AR15 bolt carrier for the correct dimensions. The location of the new aft/lower face on the full auto M16/9mm bolt conversion is critical. Cut slowly and measure carefully. If the new "face" is mislocated too far forward, one of two problems will result. Either there will be insufficient clearance between the AR15's takedown-pin post and the new bolt "face" to install the "paddle" or the ignition timing will be too advanced. The former problem is fatalistic. If it can't be assembled, then it can't hurt you. In the latter, worst case scenario of too-advanced timing, the AR15 could fire out of battery. This is a very dangerous condition. If the new bolt "face" is mislocated too far aft, then the LL will install easily but the AR15/9mm will not fire in full auto. In this condition, the bolt "face" will not be able to engage the LL "paddle" to release the hammer. The LL/AR15 is not totally disabled in this case though. The malfunctioning LL will still allow the AR15 to fire in semi auto.

Some adjustment to the LL's timing can be made by using "paddles" of differing thicknesses. Only small adjustments can be made in this manner however. If a gross error is

made while cutting the bolt, it cannot be corrected this way.

Parasitically, when using a Lightning Link in an AR15 5.56mm rifle, light hammer blows can occur with a properly timed LL. This is usually the result of a defective buffer, or of using the wrong type of buffer.

Lightning Link Or Drop In Auto Sear?

RKI's generally agree that a registered Drop In Auto Sear is preferable to a registered Lightning link. Not only does a DIAS allow select fire, a LL "paddle" is relatively fragile. It can bend. A bent "paddle" may



Left in Right: A standard semi-auto 5.56mm AR-15 bolt carrier, modified 9mm bolt carrier, standard 9mm bolt carrier and factory full-auto 5.56mm M-16 bolt carrier.



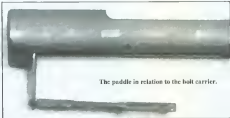
cause a failure to fire full auto but, on the positive side, a bent 'paddle' will not completely disable the LL/AR15. It will still fire reliably as a semi auto. Moreover, if the LL's 'paddle' does bend, it is easily straightened or replaced.

A well-made DIAS is more durable. Its longevity is equal to that of the pressed-in auto scar of a registered receiver M16. Though a DIAS is durable, most RKJ's do agree that a registered receiver is still preferable to a DIAS for achieving full auto fire.

Costs

Once for once, a Lightning Link is by far the most expensive machine gun ever made. Priced at about \$10,000 per ounce, Lightning Links (1/4 oz.) sell today (September, 2001) for about \$2500. A registered Drop in Auto Scar is a distant second. One weighs about an ounce and sells for \$4000. Recent prices for registered stripped M16 lower receivers have been around \$4200. Once for once, what is the best deal?

For the truly cost conscious shopper, especially if he already owns an early model AR15, a Lightning Link may be the way to go. If the AR15 owning shopper is thinking of buying a registered Drop in Auto Scar



The paddle in relation to the bolt carrier.

though, perhaps, considering the similar costs of a registered stripped M16 lower receiver and a registered DIAS, the stripped registered receiver may be the better buy.

The stripped receiver buyer would have to spend an additional \$200 for M16 fire control parts but the rest of his AR15 parts will fit the stripped M16 receiver. The \$200 cost for the M16 fire control parts can easily be recovered by selling the unwanted pre-ban AR15 receiver.

The choice of whether to legally convert an AR15 rifle to fire full auto using a registered LL or a DIAS, or, alternately, whether to buy an M16, is not clear. Each

potential buyer must decide which choice best suits his needs and his checkbook.

Sources

Back Issues of Small Arms Review
Moxxie Lake Publishing
223 Sugar Hill Road
Hamden, ME. 04942

Select fire kit for Lightning Link
John Norrell
2608 Crist Mill Rd.
Little Rock, AR. 72227